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Our findings, my method: Framing science in televised interviews

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Theoretical-empirical paper.

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Our findings, my method: Framing science in televised interviews

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Abstract

The public communication of science and technology largely depends on its framing in the news media but scientists' role in this process has only been explored indirectly. This study focuses on storied accounts told by scientists when asked to present their research or provide expert advice in the course of a news interview. 150 items from a current affairs talk show broadcast in the Israeli media were explored through a methodology combining narrative and conversation analysis. Using the concept of framing as originally proposed by Goffman (1974) we show that researchers use personal accounts as a way of reframing news stories introduced by the program hosts. Elements of method and rationale, which are usually considered technical and are shunned in journalistic reports, emerged as a crucial element in the accounts that experts themselves provide. The implications for framing research and science communication training are discussed.

Keywords

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Introduction

Public reception and understanding of science and technology are largely dependent on how issues are selected and framed by the news media (Nisbet, 2009, Feldman et al., 2011). Although scientists have been identified as privileged sources (Allan et al., 2010, Nielsen and Autzen, 2011) who influence story selection and framing (Anderson et al., 2005, Albaek, 2011), science reporting is considered to be shaped by what journalists perceive as newsworthy (Ruhrmann et al., 2015, Verhoeven, 2010) and thus can override scientific expectations of what should be covered and how (Claessens, 2008). Scientists are advised to frame their messages in ways that can elicit participation from wide and diverse publics (Nisbet, 2009), but framing research has focused on journalistic storylines, rather than the stories that researchers tell (Gamson and Modigliani, 1989, Maeseele, 2011, Allan et al., 2010, Nisbet et al., 2003).

Most previous studies have dealt with edited reports (Verhoeven, 2010, Ruhrmann et al., 2015) or retrospective interviews (Claessens, 2008, Albaek, 2011). By contrast, this study examines how scientists frame their research in the interactional context of news interviews. Since written reports are the final product of processes of framing and agenda building, their analysis cannot reveal the interactions involved in their shaping (Nisbet et al., 2003). Despite the fact that news stories are prepared through processes of research, writing, and editing, a news interview is essentially unscripted and to some extent unpredictable. Interviewees are anticipated to respond to the questions by their hosts (Heritage and Greatbatch, 1991). However, participants including experts have been shown to shift topical agendas of the interviews (Clayman and Heritage, 2002) and thus play a significant role in the *in situ* determination of news output (Roth, 1998). By treating the news interview as an emergent and interactional product this study examines the role of scientific narratives in the framing and reframing of science in the media.

By examining the insertion of scientific stories into news reports this study considers framing as an interactional process. According to Goffman (Goffman, 1974) frames are defined as "schemata of interpretation" that enable individuals to "locate, perceive, identify, and label a seemingly infinite number of concrete occurrences defined in its limits" (p 21). In media research, framing tends to refer to the ways in which the issues reported are discursively constructed (Reese, 2001). Goffman however conceptualized frames as speech activities (for example: storytelling, news delivery) through which participants project how they wish to be understood. By shifting into a personal story-frame, speakers take on the footing of a protagonist "who belongs to the world that is spoken about, not the world in which the speaking occurs" and thus present what they did, wanted or thought in a different social capacity that they may no longer claim (Goffman, 1981, 147). Accordingly, shifts between explaining and storytelling are seen as indicative of the framing and reframing of the topics discussed (Matoesian, 1999).

Literature review

Personal stories play a key role in organizing our experiences and the interpretation we ascribe to them (Bruner, 1991). They impose continuity and orderliness on contingent events or elements of life and help tellers make sense of their experiences (McAdams, 2008). Storytelling was identified as explanatory and argumentative strategies in a variety of causal and institutional settings. The selection of events to include in a story and their structuring in a particular sequence is used to endorse a moral standpoint, provide evaluative judgments, present eyewitness evidence as reliable, and contextualize and rationalize claims or counter-claims (Zimmerman, 1998, Ochs and Capps, 2001, Thornborrow, 2001, Georgakopoulou, 2007, Ainsworth and Hardy, 2012).

Studies of science popularization have also demonstrated the strategic and argumentative function of personal stories. According to Myers (Myers, 1990), professional genres tend to

focus on the research context and foreground prior findings to support the author's claims ("narratives of science"), whereas popular science topicalizes the natural environment and the organisms under study ("narratives of nature"). Qualifications and contingencies that mark scientists' discourse in collegiate settings tend to be streamlined when research is presented in academic papers (Gilbert and Mulkay, 1984), or when presented to policy makers and potential users of the research results (Evans et al., 2009). Scientific narratives emerge as strategic re-interpretations of past accomplishments that are geared towards framing the research in a particular way.

Although TV science reports are largely narrative based (Willems and Göpfert, 2006), their shaping by researchers' stories has received little attention. TV programs have primarily been examined for coverage levels (Willems and Göpfert, 2006, Lehmkuhl et al., 2012), criteria of newsworthiness (León, 2008), and the journalistic frames typical of representing scientific topics (Feldman et al., 2011, Barel et al., 2015, Ruhrmann et al., 2015). Attention to expert sources has dealt mainly with who and how are they selected and cited by journalists (Verhoeven, 2010) or film makers (Kirby, 2011, Gouyon, 2016). Detailed case studies have documented scientists' involvement in media productions in a variety of ways but have centered primarily on their incorporation into preconfigured media accounts (Collins, 1987, Bourdaa et al., 2015; Van Dijk, 2006, Potter et al., 1991). In contrast, this study examines the narratives produced by researchers rather than media professionals, and enquires into the reframing of journalists' storylines by their scientific sources.

Studies of broadcast talks have listed a plethora of strategies by which speakers' footing is used in framing the talk topic. By arguing that animating (Goffman, 1981) claims as made by others or reflecting a collective idea (Fetzer, 2014, Clayman, 1992) speakers can deflect responsibility for the claims they are making or present them as aligned with commonsensical viewpoints. However, unlike lay and public figures, experts are expected to provide

empirically supported factual statements or arguments rather than engage in authentic talk (e.g. Livingstone and Lunt, 1994). Though hardly the conventional mode for foregrounding expertise (Bruner, 1986, Ainsworth and Hardy, 2012), this study examines how personal stories are and can be used in communicating scientific facts.

Data and method

This study is based on a corpus of 150 news interviews conducted with 140 scientists on the daily Israeli current affairs TV talkshow *London et Kirschenbaum* from 2009 to 2011. In these interviews, 54 stories were identified and collected for thematic analysis (see below). Broadcast on a national commercial channel in Israel (Channel 10) this highbrow pre-primetime news magazine (Hamo, 2015) is one of Israel's key agenda-setting news broadcasts. During data collection the program was co-hosted by veteran journalist and presenter Yaron London (henceforth IR1) and by the now departed Moti Kirschenbaum (henceforth IR2), a former director-general of the Israel Broadcasting Authority and one of the founders of Israeli television. While in terms of its ratings (7-10% of the TV audience in Israel) *London* et *Kirschenbaum* was during the sampling period on a par with other pre-prime time programs, it is exceptional in its high levels and quality coverage of science and technology topics compared to other news outlets in Israel (Manshfroind, 2009, Barel et al., 2015).[i]

Based on Besley and Nisbet (Besley and Nisbet, 2013) our definition of a scientist refers to "a broad array of individuals from across science, medical and engineering fields, working in research and non-research positions, holding varied levels of post-graduate degrees, and employed across the university, government, non-governmental or industry sectors" (p.2). The items analyzed represent the full coverage of science in the program as identified by automatic and manual searchers in the programs' line-ups. The extended period was selected to allow for the construction of a broad corpus of interactional encounters. Each episode is

composed, on average, of 7 items with the scientific interviews lasting 4 to 10 minutes (6.5minutes on average). Over half of the scientific items (54%) reported on news research findings or ongoing projects, and the remainder inviting scientists to comment on current affairs. Over half (54%) of the experts interviewed (henceforth IE), who were primarily males (82%), were university professors, mostly (64%) invited as commentators rather than as authors of the study or opinion discussed.

The analysis of interviewees' accounts was guided by a social-interactional approach to narrative analysis that sees storytelling as a social practice anchored in particular contexts and reflecting specific interactional goals (Georgakopoulou, 2007). Previous studies of news narratives have examined their structures in textual and broadcast genres (Bell, 1991, Montgomery, 2007), schematic organization (Van Dijk, 1988) and their implications for how news topics are framed (Nisbet et al., 2003). Unlike scripted stories, the analysis of conversational stories involves examining their embedding in the particular contexts of talk, listeners' contributions and objections, and the agendas that are put forward as the story develops (Jefferson, 1978, Ochs and Capps, 2001, Georgakopoulou, 2007). By attending to the interactional dynamics of these storied accounts we could examine their use in framing the report, accounting for the research reported, and the supporting arguments the experts put forward.

The items were transcribed and each was coded for the presence and topic of the narratives that were identified. Narratives were defined as descriptions of past events structured with a clear beginning, middle and end, that are sequenced in a way that is consequential for the meanings that the speaker conveys (Riessman, 2008, Myers, 1990). For example, the following excerpt describing the general characters of the stories, follows a request for information regarding the possible risks pinpointed in the study conducted by the IE (for transcription notation see Appendix 1) :

Ex.1 breast cancer, 1.4.2010

IE. hhhh. this is a study that is very special this is an international study (0.4) ((performed)) only on carriers (0.2) carriers of BRCA or BRACA
((2 lines of transcript omitted))
When we compared (.) the women that went through (0.2) partial amputation of the breast to their breast cancer with ((cases of)) full amputation (0.3) hhhh. its true that there were more local (.) recurrences in women that kept their breasts (0.4) hhh. bu:t eventually the women lived to a similarly (0.7) hhhh. and that somewhat takes us away a bit from the idea of being very very aggressive e:h in the treatment of breast cancer in carriers

The IE provides a narrative that contains a clear beginning, middle, and end, introduces the study and its method, and describes how, from the scientist's perspective, these findings were obtained. The narratives were coded thematically for their introduction of scientific elements including the study rationale, the findings, the methods used, and the implications that can legitimately be drawn. The coding categories as well as the criteria for segmenting narratives were refined among the authors in meetings with colleagues from their research group. After refining the categories and omitting boundary cases 10% of the material was coded by one of us (R.A.) and a group member for the presence of stories. Inter-rater reliability (Cohen Kappa K = 0.83; Figure 1) was satisfactory.

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[insert Figure 1.]

Figure 1: A procedural summary of the narrative identification and content analysis steps in this study

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To identify the interactional function of these stories in framing news accounts, selected excerpts were examined to determine the ways in which the stories were embedded. Interviewers' questions were examined for the agendas and presuppositions they projected (Clayman and Heritage, 2002, Bolden and Robinson, 2011) and whether and how these agendas were followed or transformed (Stivers and Hayashi, 2010) by the narratives. Based on Goffman (Goffman, 1981) frame changes were identified as shifts in the footing that speakers implemented regarding their utterances. Conventionally, speakers present their views as their own, although Goffman found that they can animate them as claims that others have authored, or the viewpoints of "principal" others. Shifts from one type of position to another were examined using conversation analytical techniques (Jefferson, 1978,Goodwin, 2007) to identify how IEs' accounts are put to use in the conversational context in which they are embedded.

Findings

Personal Stories, Professional Accounts

Storytelling was identified as a major strategy for explaining research on the program. 54 stories were identified in 44 items comprising nearly a third of the coverage examined. Though mostly un-elicited, the narratives occupied a significant portion (20-40%) of the question and answer sequence in each interview (Figure 2). Although fifteen cases were found where IRs interrupted an utterance that seemed to be developing into a story, the high frequency of fully formed, un-elicited and uninterrupted stories indicates that stories were generally treated as a component of an adequate response.

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[insert Figure 2.]

Figure 2. Narrative occupancy in the corpus under study. Narrative occupancy is defined as the duration of the narratives relative to the duration of exchange between IE and IRs. Story duration was measured as the start and end point of each story. In cases where items contained more than one narrative their duration was combined. Exchange duration was calculated as the item from which the duration of the opening segment was subtracted.

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In research interviews with scientists where personal accounts are elicited, the narratives invoked personal involvement and commitment to research (Holden, 2014) and exploited a vivid and emotional repertoire (Sampson and Atkinson, 2013). However, in this case, most of the stories topicalized professional rather than personal concerns. 39 stories (76%) described the background or the rationale of the study (K = 0.78), with 26 of these 39 stories presenting research methods as well (K=1). The remainder mainly presented anecdotal evidence drawn from other news stories or the IE's personal encounters which supported his argument.

Rarely did the narratives present a personalized picture of the research. For instance, in one case a scientist who had studied the therapeutic effect of cinnamon on Alzheimer's disease and was asked about his interest in the plant replied by talking about his familiarity in his youth with the Biblical use of the substance.[ii] The research focus of the narrative was reflected in that the frequency of storied accounts was significantly higher on topics reporting on research findings or projects than in items inviting IEs to comment on current affairs ($\chi 2(1)= 6.787$, $p0.05$). However, these were found to be independent of the teller's gender, professional status, and relatedness to the topic discussed, even when the topic of the item was the scientific achievements of the IE or his colleagues.[iii] Thus,

while the stories were structured as stage-wise personal accounts they tended to topicalize the experimental or observational realities of the project reported.

Individuals, Collectives and Procedures

Rather than a personal focus on their stories as individuals, the interviewees tended to adopt a footing as members of a collective. As the excerpts in Table 1 show, the researchers presented themselves as members of a research group or a research field, at times specifying but in other cases blurring the boundaries between the collectives they referenced (Dori-Hacohen, 2014). Whereas politicians were found (Fetzer, 2014) to use the collective 'we' as a way of equivocating their claims or deflecting individual responsibility, scientific authority is premised, normatively, on presenting claims as collectively owned (Krips, 1995, Hilgartner, 2000). This use of the "narratorial we" (Krips, 1995, 282) supported an engaged mode of narration, but at the same time focused on research rather than personal domains.

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[Insert table 1]

Table 1: Footing and footing shifts. Excerpts from storied accounts are marked for their grammatical subjects (squares) and footing shifts (arrows).

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Though the use of the collective 'we' is prevalent, the ways in which this footing was adopted reflect the particular form of accounting that researchers understood as appropriate to the topic as framed. Whereas popular science presents scientists as colorful characters engaged in detective-like explorations of the natural world (Curtis, 1994, Mellor, 2003) academic prose tends to present scientific discovery as an orderly one that progresses linearly from a set of hypotheses and the application of universally

effective procedural routines, and tends to avoid rather than foreground their authors' involvement and interpretations (Gilbert and Mulkay, 1984). Excerpt 5 shows that even when presented as a highly credible researcher, the story is reframed in the experts' narrative as a collective and gradually emerging achievement.

The item in excerpt 5 has to do with a major scandal in Israel dubbed "the Remedia Affair", where the consumption of a baby formula marketed by the Remedia company was identified as causing severe neurodevelopmental defects (Reznick and Lutsk, 2003). This item, broadcast seven years later (2010), reported on follow-up studies on mildly affected children. The IE, reputed as having identified the link between the pathological symptoms and nutritional deficiencies in 2003 was presented in the current item as an expert in medical neurology who led the study. The sequence below follows an extended opening segment introduced by IR1 and a health correspondent (HC) where they present the story as it unfolded from 2003 to the recent findings made by the IE:

Ex.5 The Remedia affair, 15.11.2010

IR1. Bu-but you Doctor ((IE. name)) have monitored these babies for eh for years

IE. hh. I monitored the::m and the reason that I monitored was actually only because they have been a risk population we called them there were:n't in the beginning any neurological symptoms hhh. but the parents a::sked and we also decided to monitor them in the course of the monitoring e::h hhh. (0.2) eh we began to suspect that they have some kinds of deficiencies (0.5) not seve:re mild ones in the((ir)) development especially in areas of language fine motor ((skill)) co-ordination
(0.3)

IR1. [Yes]

IE. [hh.] and indeed we decided to investigate tha:t
((9 lines of transcript omitted))
and the children underwent tests of e::h language language tests (0.3) ((that were)) diverse and ma:ny hh. and actually we compared them hh. the group of the children that we examined to children that the:y children that did not consume Remedia hh. (.) and we tried to examine if there are differences and we found really e::h large differences in the [((unclear, 3 words))]

IR1. [also in the physical fitness] (.) or only in the cognitive fitness

Though the question did not specify any type of reply as specifically relevant, it was designed to elicit some type of information about the children that the IE is ratified in providing. Yet the IE responds by topicalizing her research and the rationale for conducting it (Hebrew transliteration (henceforth: heb.), *kshe'hasiba she'akavti akhreihem*, line (henceforth (l.) l.8) thus presenting it as an accountable issue. Prefacing her response by repeating the terms that the IRs was using (I monitored the::m, heb., *ani akavti akhareihem*, l.8) treats the IRs' agendas or presuppositions (Bolden, 2009) as problematic despite the positioning of the IE as a credible expert in the introduction. Accordingly, the narrative that the IE develops should be seen as a justification of her rationale and at the same time, as revising the news story as presented by IRs.

This revision pertains both to the personalities involved in the study and the actions for which they can be held accountable. The accountable matter here is the rationale of the study reported. While this rationale is presented as the personal choice of the IE (l.8-9), the decisions (l.10, l.16) and the monitoring and study procedures (l.10-13, l.21-22) are presented as having conducted by her group.[iv] Thus, whereas IRs presented the IE as a discoverer and leader the IE shifts her footing to presenting collective rather than individual responsibility for the results and interpretations. However, even the agency of the group is highly mitigated. Her sentence starts by mentioning children who had no neurological symptoms (l.9-10), but then gradually become observable during monitoring (heb., *be'mahalakh ha'ma'akav,* l.11) and comparative procedures. While the news story treated the IE as a leading figure, the IE takes a footing of a member of a group that was merely aware of the symptoms unfolding.

Discoveries & Routines

The shift in footing into foregrounding data and measurements supports the construction of plots in which discoveries emerge during research routines. Excerpt 6 is taken from an item that celebrates the life work of the IE, who has just won a prestigious scientific award for identifying the genetic basis of a rare and untreatable disorder. The exchange in this segment, in which the IE topicalizes the method used in the study follows earlier segments in which the disease, the discovery, and prospects for treatment were discussed:

Ex.6. A.T. disease, 6.3.11

IR1. Say how what is the me(.)thodology of this type of a search (.) hh. You know that there is a disease (0.2) and you know that there is a genome (0.5) h. now ((in)) the genome there are ma::ny ma::ny genes (.) ma[ny genes]
IE. [More than twen]ty thousand (0.2)
IR1. More than twenty thousand **now how do you relate the disease to the ge:ne** (0.2)
IE. hhhh. (0.6) This is a study that is going on for many years (0.2) Actually all we have is these (.) patients (0.2) who::'re facing us hh. (.) the famili:es (0.3) and their very important help (.) hh. and we begin with a geneti:c study (.) that seeks slowly slowly (.) to (0.2) map the ge:ne to a region (.) that is specific within the genome hh. to narrow down just as {they} narrow down (0.2) step by step hhh. and then we are left with (.) a small area of the geno:me and this is taking several years (0.5) all this research took h. (.) the discovery of the gene took eight years in the laboratory (.) hhh. and then you try to fish (0.2) all the genes that are in the same area (0.3)
((4 lines of transcript omitted))
hhh. (0.2) and you fish them one by o:ne and it's called it's really hunting it's called gene hunting (0.2) {you} compare this gene in healthy and sick people (0.3) hh. and o:ne day (0.4) as I go back up from a lecture after a lesson I gave hhh. so the::: one of my students in the lab was ho:lding a finding in her hand (0.1) an actual fresh finding from that same morning and says hhh. (0.2) there is something weird about this gene (0.2) in the family
((3 lines of transcript omitted))
and I look at this finding hh. (0.2) and it becomes clear to me-
((6 lines of transcript omitted))
IE. that this gene is defective in that family=

Though the question was formulated in terms of the IE's research (e.g. 'you relate', heb., *meshayekh*, l.6) he is asked to explain the procedure as employed in "this type of

search" (heb., *khipus kaze,* l.1). That is, his personal project is addressed as exemplar of other studies where links between "a disease" (heb., *makhala*, l.2) and "a genome" (heb. *genom*, l.2) are sought. However his delayed turn onset (l.6-7) indicates some trouble in the uptake of the question's agenda and the IE's response indicates that he understands that it is his personal project that needs to be explained. The priming of the long duration of his project (l.8), and the step-by-step targeting of the gene (heb., *za'ad akhar za'ad*, l.12) are designed to explain the general technique as well as present his own study as feasible. Thus the IE overlays an explanation of a general procedure with an account of how his particular achievement was accomplished.

This overlay of the general and the particular portrays the quest as agentive but its outcome as routine. Thus the more typical narratorial 'we' (l.12) that references researchers in the first phase of the search (l.8-12) is replaced by the second person 'you' (l.15) when the zooming in on the gene is described. This form of self-referencing blurs the boundaries between the actual project and some virtual reality (Herman, 1994) that includes anyone engaged in the procedure (Ochs and Capps, 2001). This generalized mode is enhanced by a further shift in footing, this time to a pedagogic position that presents the hunting metaphor as an actual and commonly used scientific concept ("it's called", heb., *ze nikra*, l.17).

While the gene quest is presented as achievable by any group that works meticulously, the outcome is delivered as a recollection of a particular and dramatic event. The dramatic element is played out by depicting the moment of discovery as a constructed dialogue between the IE and his student (Tannen, 1992). The construction of "direct reported speech" in the course of telling stories was identified (Holt, 1996) as

designed to enhance the listeners' involvement (Tannen, 1992) and as a way to invite them to 'witness' the occasion, thus "lending an air of objectivity to the account" (Holt, 1996: 242). But though dramatized and emplotted as a detective story (Curtis, 1994) the discovery is presented as an outcome of research and teaching routines. Because it is framed in the context of winning a scientific award, the item invites a highly personalized and agentive account. Yet in this sequence, the IE minimizes his involvement and presents the data as emerging from the finding in his student's hands.

Witnessing Research

By priming empirical data while backgrounding personal interpretations, the narratives identified in this study appear to ratify scientific knowledge by appealing to a first-hand mode of bearing witness. This mode of witnessing is illustrated by excerpt 7 taken from an item discussing a geological survey of the Dead Sea. Unlike the items discussed above, this item was framed as an account of a work-in-progress rather than as a report on scientific results. The IE, who was introduced as a central actor in the project, was interviewed a year earlier when this project was launched and he is now asked to justify the huge investment that the project is presented as costing. As only preliminary results have been obtained, the project triggered public interest by its scale and the investments incurred. The following segment followed a debate between the IE and IR2 regarding the geological uniqueness of the Dead Sea. To center the discussion on the particular project, IR1 intervenes with a question about its findings and workings:

Ex. 7. Dead sea is shrinking, 15.11.2011

IE. from other lakes [or from]
IR1. [what what] what did you (pl.) find (.) how deep did you (pl.) get=
IE. okey h. so what we did (0.3) h. we brought the ba:rg (0.2) that came to the Dead Sea (0.2) a:nd we:: du((g)) e::h drilled at two sites (.) hh. one site was in the p-

place where the water are the deepest (.) at a water depth of three hundred meters
hh. and there we penetrated the ground to a depth of another half a kilometer (0.2)
h. Just imagine that there stood there under the barge a pi:pe (.) h. that its length
was nearly eight hundred meters (.) h. and it brings out samples (.) of what we call
sedime:nt it brings these out in a fo:rm that is a totally: undisturbed (.) h. and we
can later today go (.) and look at it (.) h. and see (0.2) wha:t is the information that
it contains (0.2) hh. so that is a thing that from a scientific perspective it's not just
[a drill]
IR2. [What did you] find what was in that
(0.7)
IE. one sec that's not just a [dr](ill))
IR2. [no] we don't have we will not have=
IE. °yes°
IR2. much time and we want to [use it]
IE. [e::h so okey] so as far a::s (0.1) at the mo:ment we
only just opened now the nuclei and cut them two weeks ago

Though initially formulated in terms of research findings (l.2), IR1 revises his question to deal with drilling activities as reportable as well. While in the previous items the IEs were addressed individually, the plural 'you' (heb., atem) addresses the IE as a member of a group or a project. Retaining this collective footing, the IE selects the activities rather than findings of the group as relevant and provides a detailed and vivid account of how their project works (See also excerpts 3 & 4, Table 1). In presenting the positioning the barge (l.4), and its use in drilling (l.5) and penetrating the sea bottom (l.7), his group is depicted agentively. However, the actual extraction is described, metonymically, as a job performed by the pipe (l.7). The anticipated findings are presented as inscribed in and made visible by the samples upon their extraction (l.10) rather than as an interpretative process in which researchers are engaged.

While changing his footing from a story figure (l.4-7) to that of detached reporter (l.8-13) the IE invites IR1 to change his footing as well. The imperative 'just imagine' (heb., *ta'er lekha,*. l.8), and the verbal description of the drill, that were accompanied by gestures exhibiting the action described (figure 3) enlists IR1 as a "virtual witness" (Gieryn, 1999) to the unfolding of events. The present tense recreating of the drilling scene or the genetic discovery position the interlocutors as "being there" (Tannen, 1992, Potter, 1996), thus establishing the approach and knowledge of the project team in the circumstances described. Interestingly, the alignment with this witness position ends just

when the IE signals a shift from describing the drilling to its scientific evaluation (l.11-12). In projecting time-keeping as a joint responsibility, IR2 terminates the virtual witnessing of the scene and signals that the findings should be introduced instead.

[Insert figure 3a and Figure 3b]

Figure 3. IE's gestures in excerpt 7 accompanying the depiction of the drilling pipe that his team was using. a. 'under a barge a pi:pe'(l.7). b. 'nearly eight hundred meters' (l.8).

Discussion

The subjective mode of narrative expression is often contrasted with the formal and standard formats to which scientific descriptions adhere (Bruner, 1986, Gabriel, 2004, Ainsworth and Hardy, 2012). Responses to factual questions by storied accounts seems surprising. Yet the narratives identified in this study spoke in a collective rather than a personal voice, and topicalized research contexts rather than experiential accounts. Whether presented as a distant recollection, a dramatic discovery, or as work in progress, they minimized their tellers' involvement and presented the results as emerging from experimental routines.

By casting unexpected events as part of a flow of routine events and providing seemingly irrelevant information about circumstances and characters, tellers can present themselves as ordinary, disinterested, reasonable witnesses who merely report what they saw (Wooffitt, 1992, Potter, 1996, Zimmerman, 1998). Whereas lay witnesses to particular events need to establish their entitlement to what they know, experts are ratified as knowledgeable in their domain based on their professional accreditation (Potter, 1996, Montgomery, 2007). In fact, the interviewees in the items presented in this study were all treated as perfectly competent to provide and evaluate the evidence regarding the issue discussed. While their interrogative questioning indexes an epistemic

gap that experts are invited to inform, these questions seem to be understood as soliciting an account (Bolden and Robinson, 2011) of the process leading to the results.

Since first-hand accounts were not elicited, their provision can be understood as addressing the audiences rather than the interviewers as such. Detailed descriptions of experimental accounts have been used strategically in communicating research: while researchers are presented as 'modest witnesses' of the experiments they conduct, audiences are enlisted as 'virtual witnesses' to the results obtained (Shapin and Schaffer, 1985, Haraway, 1997). The staging of experimental demonstrations (Gieryn, 1999), following research projects as they develop (Nielsen and Autzen, 2011) supports the positioning of scientists and their projects as authoritative and useful (Haran and Kitzinger, 2009). The narrative accounts examined in this study can be understood as enlisting the program's audience as virtual witnesses to the projects reported and as potential validators of their results.

The occasioning of un-elicited contexts of practice speaks to their centrality in the public accounting of science and expertise. While expert authority is premised on a well-defined body of specialized knowledge (Reed, 1996) Collins and Evans positioned expertise as a practical accomplishment, achieved via enculturation within a specific community of experts (Collins and Evans, 2007). Rather than following prescriptive rules, the acquiring and application of scientific methods, and the distinction of facts and artefacts are subject to ongoing negotiations in and beyond the lab (Lynch, 1985, Cambrosio and Keating, 1988). However studies have demonstrated that methods and procedures primed in scientific publications (Gilbert and Mulkay, 1984) tend to be backgrounded in more popular venues (Myers, 1990, Evans et al., 2009). The selection of

methods and contexts as relevant to the program under study underscores their salience in accounting for discoveries in the public domain.

Though the focus in this study on one program limits the theoretical and practical implications, its theoretical propositions can serve as a basis for further research (Yin, 1994) with other media genres and in other national contexts. The conversation analytical approach to scientists' narratives proved fruitful in identifying their use in framing and reframing news media narratives. Comparative studies with other media and public domains could provide detailed insights into the co-production of scientific knowledge (Jasanoff, 2004) and the communication of science in context.

Responses via first-hand accounts of scientific practices could suggest that scientific contexts may be more communicable than previously thought (Miller, 2001). While the media tends to report scientific findings with little attention to the methods and procedures (Sumner et al., 2014), this study indicates that science stories can find their place as components of current affairs reporting. Although scientists are advised to set aside their technical issues when communicating their research to the public (Baram-Tsabari and Lewenstein, 2013) they may choose to background their methods and related concerns. The results here suggest that scientific practices can be the topic of compelling and storylines and thus make "the walls of scientific workplaces a little less impenetrable and opaque" (Shapin, 1992, p.28).

Appendix 1. Transcription Notation

The transcription symbols used in the conversational excerpts are the following:

[] marks overlapping speech

A dash (-) marks abrupt cut off, = marks 'latched' utterances

Underlining indicates emphasis

Intervals in and between utterances were measured and are given in small untimed pauses: (.) marks a pause that is less or equal to 0.1 seconds; time (milliseconds) marks a pause that is longer than 0.1 seconds.

.h stands for in-breadths with .hh .hhh for their extension (timed as pauses)

:A colon marks an extension of the sound it follows; :: a double colon marks a longer extension.

{} encloses an inferred grammatical subject in subject-less constructions.

(()) encloses editorial comments.

heb. Indicates a Hebrew transliteration of lexical strings discussed in the text.

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[i] Aside from 2009 and 2011, the program has won the Israeli Television Academy Award since it was launched in 2005. London and Kirshenbaum were honored with the Work Life Excellence Award by the Israeli Journalists' Association (Tel Aviv) in 2009. Viewers' ratings are based on systematic measurements conducted by the Israel Audience Research Board (IARB) obtained from the Board's website and reported in the Israeli media.

[ii] A new hope for Alzheimer patients, 9.6.2011.

[iii] 10 items were identified as topicalizing the life work of the IEs or his colleagues most of them presenting him as winning a Nobel prize including two Nobel Laureates. Only five of the ten contained fully structured accounts. See excerpt 6.

[iv] Omitted lines include names and institutional affiliations of the IE's partners.

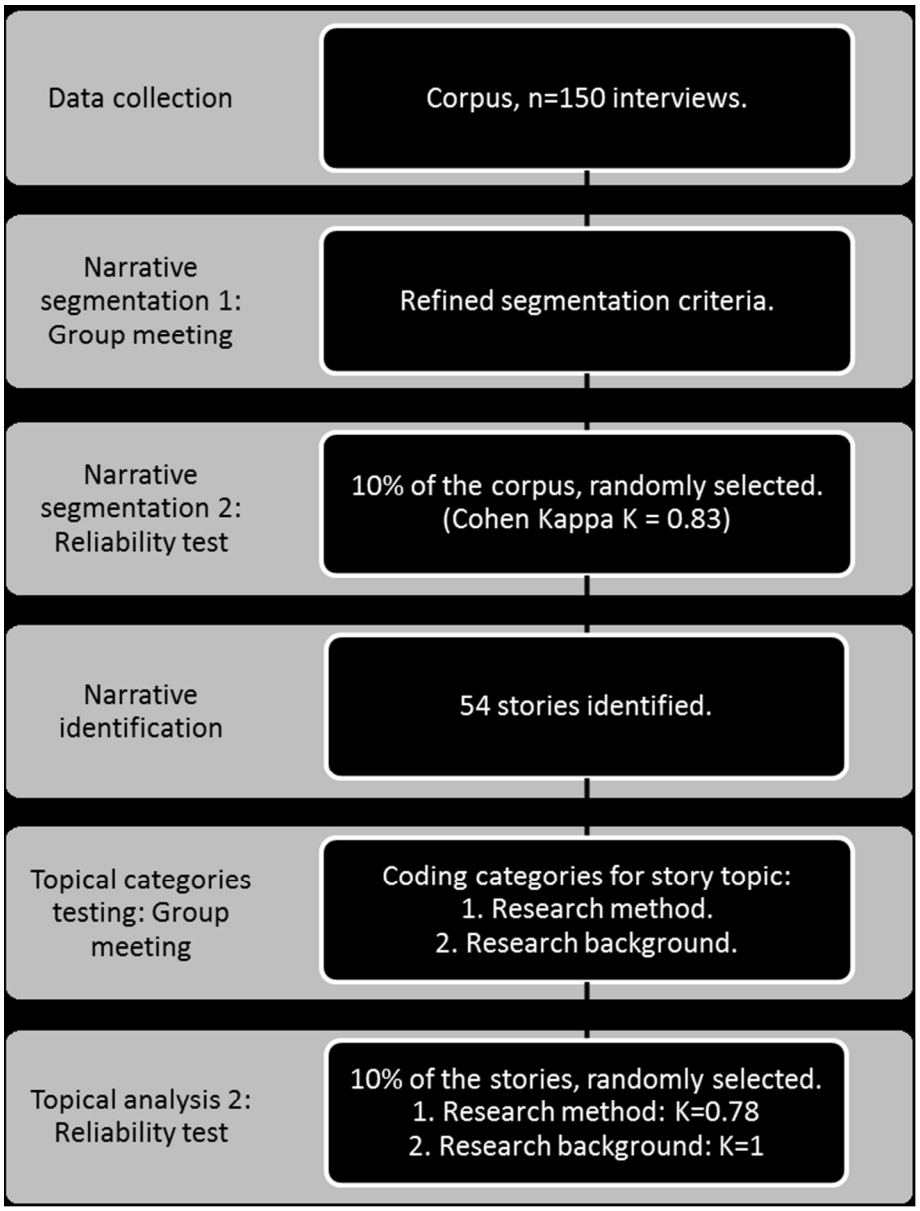
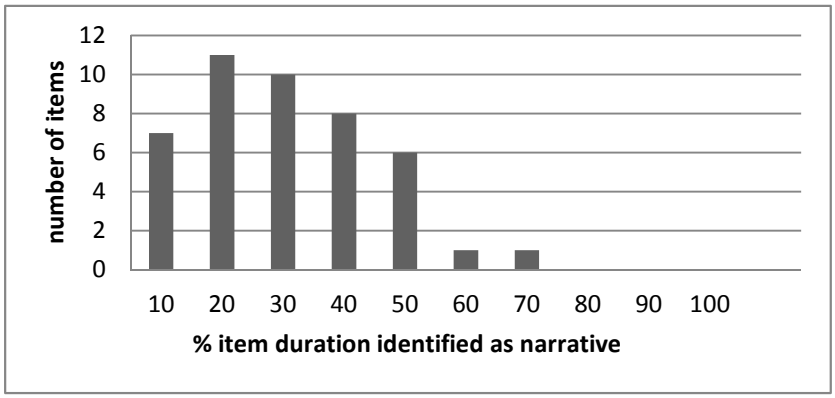


Figure 1: A procedural summary of the narrative identification and content analysis steps in this study. 126x166mm (150 x 150 DPI)

Narrtives		Subject
Ex2. The Laron Syndrome, 21.2.11		
IR1.	okay (0.2) what is this syndrome (.) that's called the Laron Syndrome	syndrome
IE.	[Thi::s syndrome] i::s very interesting (.)	syndrome
	because when {they} introduced to me the:: first patients↑	researcher
	((5 lines of transcript ommitted))	↓
	and that happened five years later hhh. we could fi:nd that they have an extra growth hormo:ne	research group
Ex3. Bats navigation, 16.8.11		
IR1.	Why do they favour this tree and not its neighbour↓	((bats))
IE.	So (0.1) on that↑ question why specifically this one (0.1)	
	this is in fact something that we don't have a good answer for	research field
	>but on the crux of the matter to show that this thing is correct	↓
	and what is the the single bat doing<	
	that's what we do in this study	research group
	when I say we I refer to ((names of partners, affiliations)) and myself	
	so what we did	
Ex4. antibiotics resistance, 6.12.11		
IR1.	you found↑ a way to overcome it (0.2)	IE
	explain to us in the simplest language you can h. (0.2) how	IE
	(0.4)	
IE.	((4 lines of transcript omitted))	
	and what we di::d <we used first of all prior knowledge> (0.3) hh.	research group
	tha::t already in the fifties {they} saw that there exist some (0.2)	↓
	gene a DNA segment hh.	
	that if we insert it to bacteria:↑ (0.2) hh.	research field
	than the resistant bacteria	↓
	the bacteria tha::t are currently resistant to antibiotics from cer->certain ty:pe↑ hh. will become sensitive (0.6)	
	((3 lines of transcript omitted))	↓
	what we in the laboratory did (0.2) i::s	research group



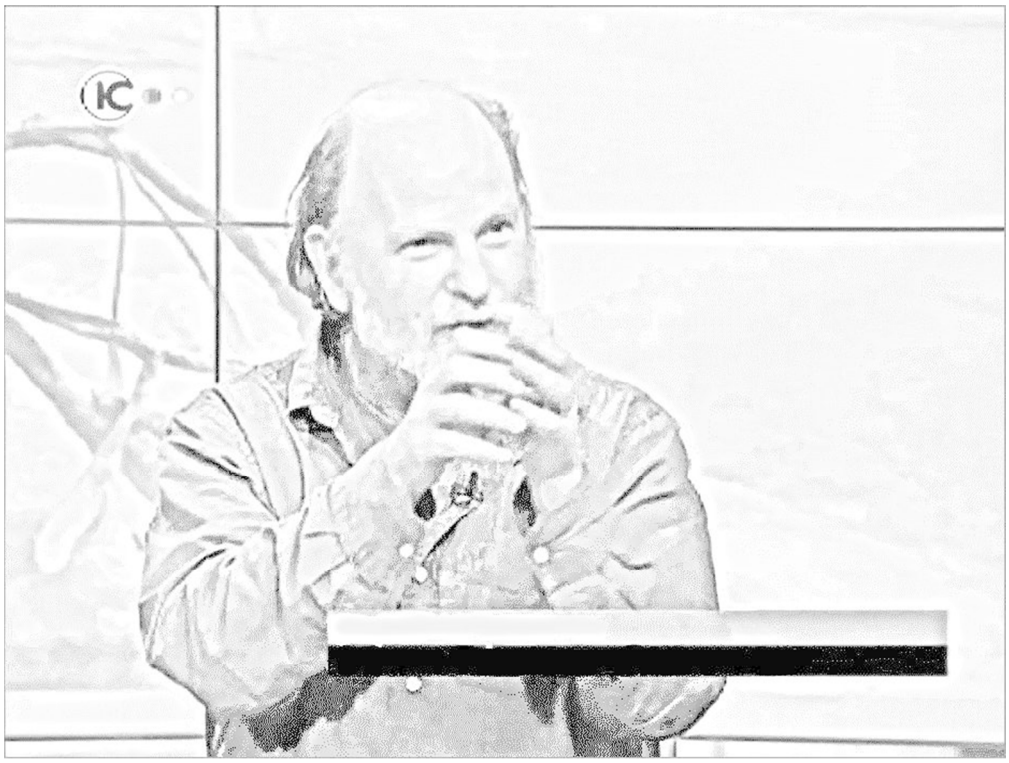
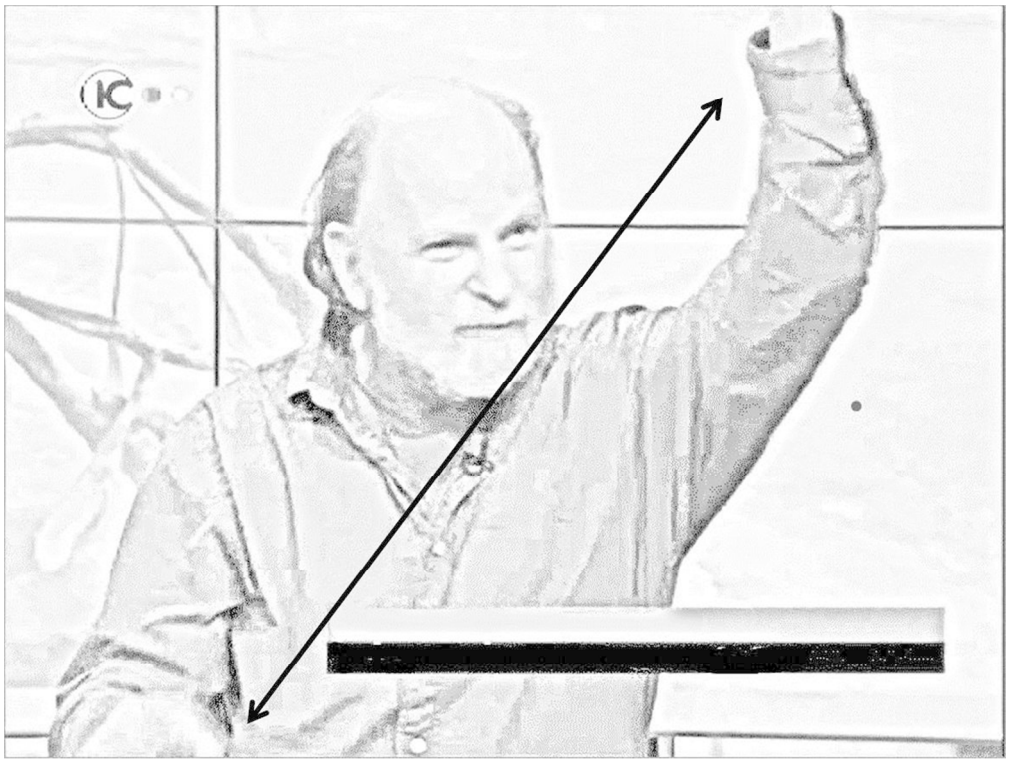


Figure 3. IE's gestures in excerpt 7 accompanying the depiction of the drilling pipe that his team was using. a. 'under a barge a pi:pe'(l.7). b. 'nearly eight hundred meters' (l.8).
197x148mm (120 x 120 DPI)



197x148mm (150 x 150 DPI)